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<110 > Pierre Fabre Médicament <120> USE OF ACTIVE P40 CONJUGATES FOR NASAL DELIVERY <130> D17064 <140> PCT/FR99/00703 <141> 1999-03-26 <150> FR 98 03814 <151> 1998-03-27 <160> 136 <170> PatentIn Vers. 2.0 <210> 1 <211> 1032 <212> ADN <213> Klebsiella pneumoniae <220> <221> CDS <222> (1)..(1032) <223> rP40 <400> 1 atg aaa gca att ttc gta ctg aat gcg gct ccg aaa gat aac acc tgg Met Lys Ala Ile Phe Val Leu Asn Ala Ala Phe Lys Asp Asn Thr Trp tat gca ggt ggt aaa ctg ggt tgg tcc cag tat cac gac acc ggt ttc Tyr Ala Gly Gly Lys Leu Gly Trp Ser Gln Tyr His Asp Thr Gly Phe tac ggt aac ggt ttc cag aac aac ggt ccg acc cgt aac gat cag Tyr Gly Asn Gly Phe Gln Asn Asn Gly Pro Thr Arg Asn Asp Gln 144 35 40 ctt ggt gct ggt gcg ttc ggt ggt tac cag gtt aac ccg tad otc ggt 192 Leu Gly Ala Gly Ala Phe Gly Gly Tyr Gln Val Asn Pro Tyr Leu Gly 50 ttc gaa atg ggt tat gac tgg ctg ggc cgt atg gca tat aaa ggc agc Phe Glu Met Gly Tyr Asp Trp Leu Gly Arg Met Ala Tyr Lys Gly Ser 65 gtt gac aac ggt gct ttc aaa gct cag ggc gtt cag ctg acc gct aaa\ Val Asp Asn Gly Ala Phe Lys Ala Gln Gly Val Gln Leu Thr Ala Lys ctg ggt tac ccg atc act gac gat ctg gac atc tac acc cgt ctg ggc Leu Gly Tyr Pro Ile Thr Asp Asp Leu Asp Ile Tyr Thr Arg Leu Gly

ggc atg gtt tgg cgc gct gac tcc aaa ggc aac tac gct tct acc ggc

**4**\

							cag Gln										1032	
						Arg	cgt Arg	Val	Glu	Ile	Ğlu	Val	Lys	Gly	Tyr	Lys	1008	
							aac Asn										960	
•							gct Ala 295										912	
			Arg	Ala	Gln	Ser	gtc Val	Val	Asp	Tyr	Leu	Val	Āla	Lys			864	
							ggt Gly										816	
		_	-	_		_	gat Asp	_		_				-	_	_	768	
							gaa Glu										720	
·							ctg Leu 215										672	
By.							gct Ala										624	
							ctg Leu									gaa Glu	576	
							ggc Gly										528	
							act Thr										480	
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<211> 344

<212> PRT

<213> Klebsiella pneumoniae

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Tyr Ala Gly Gly Lys Leu Gly Trp Ser Gln Tyr His Asp Thr Gly Phe 20 25 30

Tyr Gly Asn Gly Phe Gln Asn Asn Gly Pro Thr Arg Asn Asp Gln 35 40 45

Leu Gly Ala Gly Ala Phe Gly Gly Tyr Gln Val Asn Pro Tyr Leu Gly
50 60

Phe Glu Met Gly Tyr Asp Trp Leu Gly Arg Met Ala Tyr Lys Gly Ser 65 70 75 80

Val Asp Asn Gly Ala Phe Lys Ala Gln Gly Val Gln Leu Thr Ala Lys 85 90 95

Leu Gly Tyr Pro Ile Thr Asp Asp Leu Asp Ile Tyr Thr Arg Leu Gly
100 105 110

Gly Met Val Trp Arg Ala Asp Ser Lys Gly Asn Tyr Ala Ser Thr Gly
115 120 125

Val Ser Arg Ser Glu His Asp Thr Gly Val Ser Pro Val Phe Ala Gly
130 135 140

Gly Val Glu Trp Ala Val Thr Arg Asp Ile Ala Thr Arg Leu Glu Tyr 145 150 155 160

Gln Trp Val Asn Asn Ile Gly Asp Ala Gly Thr Val Gly Thr Arg Pro 165 170 175

Asp Asn Gly Met Leu Ser Leu Gly Val Ser Tyr Arg Phe Gly Gln Glu 180 185 190

Asp Ala Ala Pro Val Val Ala Pro Ala Pro Ala Pro Ala Pro Glu Val 195 200 205

Ala Thr Lys His Phe Thr Leu Lys Ser Asp Val Leu Phe Asn Phe Asn 210 215 220

Lys Ala Thr Leu Lys Pro Glu Gly Gln Gln Ala Leu Asp Gln Leu Tyr 225 230 235 240

Thr Gln Leu Ser Asn Met Asp Pro Lys Asp Gly Ser Ala Val Val Leu
250
255

Gly Tyr Thr Asp Arg Ile Gly Ser Glu Ala Tyr Asn Gln Gln Leu Ser 260 265 270 Glu Lys Arg Ala Gln Ser Val Val Asp Tyr Leu Val Ala Lys Gly Ile

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275
Pro Ala Gly Lys Ile Ser Ala Arg Gly Met Gly Glu Ser Asn Pro Val
Thr Gly Asn Thr Cys Asp Asn Val Lys Ala Arg Ala Ala Leu Ile Asp
Cys Leu Ala Pro Asp Arg Val Glu Ile Glu Val Lys Gly Tyr Lys
                                330
Glu Val Val Thr Gln Pro Gln Ala
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Thr Val Lys Thr Lys Asn Thr Thr Thr Thr Gln Thr Gln Pro Ser Lys
                                 10
96
Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn
           20
gat ttc cat ttc gaa gtg ttc aac ttc gtg ccg tgc agc atc tgc agc
Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Ser
                          40
aac aac ccg acc tgc tgg gcg atc tgc aaa cgt atc ccg aac aaa aaa
Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys
Pro Gly Lys Lys Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys
                   70
                                                           288
acc acc aaa aaa gat cat aaa ccg cag acc acc aaa ccg aaa gaa gtg
Thr Thr Lys Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val
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                                                           303
ccg acc acc aaa ccg
Pro Thr Thr Lys Pro
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<210> 4

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  Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn
  Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Ser
                                40
  Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys
💫 Pro Gly Lys Lys Thr Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys
  Thr Thr Lys Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val
  Pro Thr Thr Lys Pro
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  <223> G2B
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  Thr Ala Gln Thr Lys Gly Arg Ile Thr Thr Ser Thr Gln Thr Asn Lys
                                       10
  ccg agc acc aaa agc cgt agc aaa aac ccg ccg aaa aaa ccg aaa gat
  Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp
                                   25
  gat tac cac ttc gaa gtg ttc aac ttc gtg ccc tgc agc atc tgc ggc
  Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly
                               40
  aac aac cag ctg tgc aaa agc_atc_tgc-aaa acc atc ccg agc aac aaa
  Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys
```

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```
ccg aaa aag aaa ccg acc atc aaa ccg acc aac aaa ccg acc acc aaa
  Pro Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys
   65
                       70
  acc acc aaa agt gat ccg aaa acc ccg gcg aaa atg ccg aag aag
  Thr Thr Asn Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys
                                                                     303
  gaa atc atc acc aac
  Glu Ile Ile Thr Asn
              100
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  <211> 101
  <212> PRT
  <213> Respiratory Syncytial Virus (RSV)
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  Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp
  Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly
  Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys
  Pro Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys
  Thr Thr Asn Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys
  Glu Ile Ile Thr Asn
              100
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acc gtg aaa acc aaa aac acc acg acc cag acc cag ccg agc aaa Thr Val Lys Thr Lys Asn Thr Thr Thr Gln Thr Gln Pro Ser Lys

96 Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn 20 gat tte cat tte gaa gtg tte aac tte gtg eeg age age ate tge age Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Ser 40 aac aac ccg acc tgc tgg gcg atc agc aaa cgt atc ccg aac aaa aaa 192 Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys 240 Pro Gly Lys Lys Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys 70 75 acc acc aaa aaa gat cat aaa ccg cag acc acc aaa ccg aaa gaa gtg 288 Thr Thr Lys Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val 90 ccg acc acc aaa ccg 303 Pro Thr Thr Lys Pro 100 <210> 8 <211> 101 <212> PRT <213> Respiratory Syncytial Virus (RSV) <400> 8 Thr Val Lys Thr Lys Asn Thr Thr Thr Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Ser 40 Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys 55 Pro Gly Lys Lys Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys 70 65 Thr Thr Lys Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val 90 Pro Thr Thr Lys Pro

<210> 9

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<211> 303

<212> ADN

<213> Respiratory Syncytial Virus (RSV)

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                                                                   48
Thr Ala Gln Thr Lys Gly Arg Ile Thr Thr Ser Thr Gln Thr Asn Lys
ccg agc acc aaa agc cgt agc aaa aac ccg ccg aaa aaa ccg aaa gat
                                                                   96
Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp
             20
gat tac cac ttc gaa gtg ttc aac ttc gtg ccc agc agc atc tgc ggc
                                                                   144
Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly
         35
aac aac cag ctg tgc aaa agc atc agc aaa acc atc ccg agc aac aaa
                                                                   192
Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys
    50
ccg aaa aag aaa ccg acc atc aaa ccg acc aac aaa ccg acc acc aaa
                                                                   240
Pro Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys
                     70
ace ace aac aaa cgt gat eeg aaa ace eeg geg aaa atg eeg aag aag
                                                                   288
ትኪr Thr Asn Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys
gaa atc atc acc aac
                                                                   303
Glu Ile Ile Thr Asn
            100
<210> 10
<211> 101
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Thr Ala Gln Thr Lys Gly Arg Ile Thr Thr Ser Thr Gln Thr Asn Lys
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Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp
             20
Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly
Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys
```

Pro Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys

80

70

3

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Thr Thr Asn Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys
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  Glu Ile Ile Thr Asn
              100
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  <211> 42
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  <221> CDS
  <222> (1)..(42)
  <220>
 <223> G1ACys
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  age ate tge age aac aac eeg ace tge tgg geg ate tge aaa
                                                                      42
  Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
                                        10
  <210> 12
  <211> 14
  <212> PRT
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  <210> 13
  <211> 42
  <212> ADN
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  <221> CDS
  <222> (1)..(42)
  <220>
  <223> G1BCys
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  agc_atc_tgc_ggc_aac_aac_cag_ctg_tgc_aaa_agc-atc-tgc-aaa-
  Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
    1
```

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<210> 14
<211> 14
<212> PRT
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Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
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<223>G1A
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age ate tge age aac acc eeg acc tge tgg geg ate age aaa
                                                                    42
Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
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Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
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<223>G1B
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Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
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<210> 18
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  <211> 14
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  <213> Respiratory Syncytial Virus (RSV)
  <220>
  <223> Xaa means Orn.
  <220>
<223> G1'A
· <400> 19
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  <223> G1'B
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  <223> Xaa means Orn.
  <220>
  <223> G1'AδC
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Ser Ile Asp Ser Asn Asn Pro Thr Xaa Trp Ala Ile Ser Lys

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90

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303
ccg acc acc aaa ccg
Pro Thr Thr Lys Pro
            100
<210> 24
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<213> Respiratory Syncytial Virus (RSV)
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Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn
Asp Ser His Ser Glu Val Ser Asn Ser Val Pro Ser Ser Ile Cys Ser
Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys
Pro Gly Lys Lys Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys
                     70
Thr Thr Lys Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val
Pro Thr Thr Lys Pro
            100
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<223> G4A
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Val Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys
                                     10
                                                                   51
aaa
Lys
```

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<400> 29

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                                       10
 Lys
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                                                                     48
 Val Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser
                   5
                                       10
 aaa
                                                                     51
 Lys
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 Val Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser
                                       10
Lys
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 <221> CDS
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<223>-G4B-
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e

<210> 33 <211> 17

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gtg ccc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc
  Val Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys
    1
                    5
                                        10
  aaa
                                                                       51
  Lys
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  <211> 17
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  <400> 30
  Val Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys
                                        10
  Lys
  <210> 31
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nd;<sub>220></sub>
  <223> G4BδC
  <400> 31
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  Val Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser
  aaa
                                                                       51
 Lys
  <210> 32
  <211> 17
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  <400> 32
  Val Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser
                                        10
 Lys
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 <223> G4'A
 <400> 33
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                    5
 Lys
 <210> 34
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 <223> G4'AδC
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 Lys
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 <223> Xaa means Orn.
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 Val Pro Asp Ser Ile Asp Gly Asn Asn Gln Leu Xaa Lys Ser Ile Xaa
                                       10
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Lys

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Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                     10
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
                                                                   96
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
             20
                                 25
ccg tgc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc tgc aaa
Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
                             40
cgt atc ccg aac aaa aaa ccg ggc aaa aaa acc acg acc
                                                                   183
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr Thr
                         55
<210> 38
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<213> Respiratory syncytial Virus (RSV)
<400> 38
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Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro

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5
                                     10
  1
                                                         15
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
                                 25
Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr Thr
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                                                                  48
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
ceg tgc agc atc tgc agc aac aac ceg acc tgc tgg geg atc tgc aaa
Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
                             40
cgt atc ccg aac aaa aaa ccg ggc aaa aaa acc
                                                                  177
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr
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Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
      Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
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Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr
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 <221> CDS
 <222> (1)..(171)
 <220>
 <223> G196A
 <400> 41
 cag acc cag ccg agc aaa ccg acc aca cag cgt cag aac aaa ccg
                                                                    48
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
 ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
              20
 ccg tgc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc tgc aaa
 Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
          35
 cgt atc ccg aac aaa aaa ccg ggc aaa
                                                                    171
🕻 Arg Ile Pro Asn Lys Lys Pro Gly Lys
 <210> 42
 <211> 57
 <212> PRT
 <213> Respiratory syncytial Virus (RSV)
 <400> 42
 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
 Pro Asn Lys Pro Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
              20
 Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
 Arg Ile Pro Asn Lys Lys Pro Gly Lys
      50
```

<210> 43

<211> 165

<212> ADN

<213> Respiratory syncytial Virus (RSV)

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<220>
 <221> CDS
 <222> (1)..(165)
 <220>
 <223> G194A
 <400> 43
 cag acc cag ccg agc aaa ccg acc aca cag cgt cag aac aaa ccg
                                                                     48
 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
 ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
                                                                     96
 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
              20
 ccg tgc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc tgc aaa
                                                                     144
. Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
          35
                               40
cgt atc ccg aac aaa aaa ccg
                                                                     165
 Arg Ile Pro Asn Lys Lys Pro
      50
 <210> 44
 <211> 55
 <212> PRT
 <213> Respiratory syncytial Virus (RSV)
 <400> 44
 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
 Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
                               40
 Arg Ile Pro Asn Lys Lys Pro
 <210> 45
 <211> 159
 <212> ADN
 <213> Respiratory syncytial Virus (RSV)
 <220>
 <221> CDS
 <222> (1)..(159)
```

<220> <223> G192A

```
<400> 45
cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccg
                                                                     48
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                       10
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
              20
ccg tgc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc tgc aaa
                                                                     144
Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
cgt atc ccg aac aaa
                                                                     159
Arg Ile Pro Asn Lys
     50
<210> 46
<211> 53
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 46
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                       10
_{k}Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
             20
Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
                              40
Arg Ile Pro Asn Lys
     50
<210> 47
<211> 153
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(153)
<220>
<223> G6A
<400> 47
cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccg
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                  <sup>-</sup>5
                                       10
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
```

Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val

25

20

<210> 50 <211> 33

ceg tgc agc atc tgc agc aac ceg acc tgc tgg geg atc tgc aaa Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys 35 40 cgt atc ccg 153 Arg Ile Pro 50 <210> 48 <211> 51 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 48 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro 5 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val 20 Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro 50 <210> 49 <211> 99 <212> ADN <213> Respiratory syncytial Virus (RSV) <220> <221> CDS <222> (1)..(99) <220> <223> G7A aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg ccg tgc 48 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys 10 age ate tge age aac aac eeg ace tge tgg geg ate tge aaa egt ate 96 Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile 25 ccq 99 Pro

PF82PCTSEQ/dln

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<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 50
Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys
Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile
             20
                                  25
Pro
<210> 51
<211> 183
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(183)
<220>
<223>G200AδC
<400> 51
cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccq
                                                                    48
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                      10
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
                                                                    96
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
             20
                                  25
ccg agc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc agc aaa
                                                                    144
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
         35
                                                  45
cgt atc ccg aac aaa aaa ccg ggc aaa aaa acc acg acc
                                                                    183
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr Thr
     50
<210> 52
<211> 61
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 52
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
```

```
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr Thr
     50
<210> 53
<211> 177
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(177)
<220>
<223> G198AδC
<400> 53
cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccg
                                                                    48
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                      10
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
                                                                    96
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
             20
                                  25
ccg age age ate tge age aac aac ccg ace tge tgg gcg ate age aaa
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
         35
                             40
cgt atc ccg aac aaa aaa ccg ggc aaa aaa acc
                                                                   177
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr
<210> 54
<211> 59
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 54
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                      10
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
             20
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
         35
Arg Ile Pro Asn Lys Lys Pro Gly Lys Lys Thr
```

<210> 55 <211> 171

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<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(171)
<220>
<223> G196AδC
<400> 55
cag acc cag ccg agc aaa ccg acc aaa cag cgt cag aac aaa ccg
                                                                    48
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                      10
ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
                                                                    96
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
             20
                                  25
                                                      30
ccg agc agc atc tgc agc aac ccg acc tgc tgg gcg atc agc aaa
                                                                    144
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
         35
                              40
cgt atc ccg aac aaa aaa ccg ggc aaa
                                                                    171
Arg Ile Pro Asn Lys Lys Pro Gly Lys
     50
                         55
<210> 56
<211> 57
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 56
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                      10
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
         35
                              40
Arg Ile Pro Asn Lys Lys Pro Gly Lys
<210> 57
<211> 165
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(165)
<220>
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<223> G194AδC

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<400> 57
  cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccg
  Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                       10
  ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
  Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
               20
  ccg agc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc agc aaa
                                                                     144
  Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
           35
  cgt atc ccg aac aaa aaa ccg
                                                                     165
 Arg Ile Pro Asn Lys Lys Pro
, <210> 58
  <211> 55
  <212> PRT
 <213> Respiratory syncytial Virus (RSV)
 <400> 58
 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                                       10
 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
 Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
                               40
 Arg Ile Pro Asn Lys Lys Pro
      50
 <210> 59
 <211> 159
 <212> ADN
 <213> Respiratory syncytial Virus (RSV)
 <220>
 <221> CDS
 <222> (1)..(159)
 <220>
 <223> G192AδC
 <400> 59
 cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccg
 Gln_Thr_Gln_Pro_Ser_Lys_Pro_Thr_Thr_Lys_Gln_Arg_Gln_Asn_Lys_Pro-
                                       10
 ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg
 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
```

20 25 30 ccg agc agc atc tgc agc aac aac ccg acc tgc tgg gcg atc agc aaa Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys 35 40 cgt atc ccg aac aaa 159 Arg Ile Pro Asn Lys 50 <210> 60 <211> 53 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 60 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro 1 5 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys 50 <210> 61 <211> 153 <212> ADN <213> Respiratory syncytial Virus (RSV) **1** 220> <221> CDS <222> (1)..(153) <220> <223> G6AδC <400> 61 cag acc cag ccg agc aaa ccg acc acc aaa cag cgt cag aac aaa ccg 48 Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro 10 ccg aac aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg 96 Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val 25 ccg agc agc atc tgc agc aac ccg acc tgc tgg gcg atc agc aaa 144 Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys 40 cgt atc ccg 153 Arg Ile Pro

```
<210> 62
<211> 51
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 62
Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro
                  5
                                      10
Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys
Arg Ile Pro
     50
<210> 63
<211> 99
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(99)
<220>
223> G7AδC
<400> .63
aaa ccg aac aac gat ttc cat ttc gaa gtg ttc aac ttc gtg ccg agc
                                                                    48
Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser
                  5
age ate tge age aac ace eeg ace tge tgg geg ate age aaa egt ate
                                                                    96
Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile
ccg
                                                                    99
Pro
<210> 64
<211> 33
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 64
Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser
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Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile

20 25 30

Pro

<210> 65

<211> 183

<212> ADN

<213> Respiratory syncytial Virus (RSV)

<220>

<221> CDS

<222> (1)..(183)

<220>

<223> G200B

<400> 65

agc acc cag acc aac aaa ccg agc acc aaa agc cgt agc aaa aac ccg 48 Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro 1 5 10

ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg 96
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
20 25 30

ccc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc aaa 144
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
35 40 45

acc atc ccg agc aac aaa ccg aaa aag aaa ccg acc atc

Thr Ile Pro Ser Asn Lys Pro Lys Lys Pro Thr Ile

50

55

60

<210> 66

<211> 61

<212> PRT

<213> Respiratory syncytial Virus (RSV)

<400> 66

Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro 1 5 10 15

Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val 20 25 30

Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
35 40 45

Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro Thr Ile
50 55 60

<210> 67

<211> 177

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<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(177)
<220>
<223> G198B
<400> 67
age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg
                                                                    48
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                  5
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
                                                                    96
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
ecc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc aaa
                                                                   144
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
         35
acc atc ccg agc aac aaa ccg aaa aag aaa ccg
                                                                   177
Thr Ile Pro Ser Asn Lys Pro Lys Lys Pro
     50
<210> 68
211> 59
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 68
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
Thr Ile Pro Ser Asn Lys Pro Lys Lys Pro
<210> 69
<211> 171
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(171)
```

<220>

<223> G196B <400> 69 age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro 10 ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val 20 ccc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc aaa Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys 35 acc atc ccg agc aac aaa ccg aaa aag Thr Ile Pro Ser Asn Lys Pro Lys Lys 50 <210> 70 <211> 57 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 70 Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro 10 Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys 35 40 Thr Ile Pro Ser Asn Lys Pro Lys Lys <210> 71 <211> 165 <212> ADN <213> Respiratory syncytial Virus (RSV) <220> <221> CDS <222> (1)..(165)

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<400>-71
agc acc cag acc aac aaa ccg agc acc aaa agc cgt agc aaa aac ccg 4
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
1 5 10 15
```

<220>

<223> G194B

96

144

```
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
                                                       30
ecc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc aaa
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
         35
acc atc ccg agc aac aaa ccq
                                                                    165
Thr Ile Pro Ser Asn Lys Pro
     50
<210> 72
<211> 55
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 72
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                                      10
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
                              40
Thr Ile Pro Ser Asn Lys Pro
     50
<210> 73
<211> 159
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(159)
<220>
<223> G192B
<400> 73
age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                                      10
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
                                 25
ccc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc aaa
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
                             40
```

```
acc atc ccg agc aac
                                                                     159
 Thr Ile Pro Ser Asn
      50
 <210> 74
 <211> 53
 <212> PRT
 <213> Respiratory syncytial Virus (RSV)
 <400> 74
 Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
   1
                   5
 Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
 Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
 Thr Ile Pro Ser Asn
      50
 <210> 75
 <211> 153
 <212> ADN
 <213> Respiratory syncytial Virus (RSV)
 <220>
∤≤221> CDS
 <222> (1)..(153)
 <220>
 <223> G6B
<400> 75
age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg
                                                                     48
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
                                                                     96
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
                                  25
ccc tgc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc tgc aaa
                                                                     144
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
                              40
acc atc ccq
                                                                    153
Thr Ile Pro
     50
```

<210> 76 <211> 51

<212> PRT

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<213> Respiratory syncytial Virus (RSV)
<400> 76
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                   5
                                      10
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys
Thr Ile Pro
     50
<210> 77
<211> 99
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(99)
<220>
<223> G7B
<400> 77
aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg ccc tgc
Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys
  1
age ate tge gge aac aac cag etg tge aaa age ate tge aaa ace ate
                                                                    96
Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile
             20
ccg
                                                                    99
Pro
<210> 78
<211> 33
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 78
Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys
Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile
             20
```

Pro

```
<210> 79
<211> 183
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(183)
<220> G200BdC
<223>
<400> 79
age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg
                                                                   48
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
                                                                   96
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
ecc age age ate tge gge aac aac eag etg tge aaa age ate age aaa
                                                                   144
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
acc atc ccg agc aac aaa ccg aaa aag aaa ccg acc atc
                                                                   183
Thr Ile Pro Ser Asn Lys Pro Lys Lys Pro Thr Ile
<210> 80
<211> 61
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 80
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
                             40
Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro Thr Ile
    50
<210> 81
<211> 177
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
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<222> (1)..(177)

```
<220>
<223> G198BδC
<400> 81
age ace cag ace aac aaa ceg age ace aaa age egt age aaa aac eeq
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                                      10
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
                                                                   96
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
ccc agc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc agc aaa
                                                                   144
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
         35
acc atc ccg agc aac aaa ccg aaa aag aaa ccg
                                                                   177
Thr Ile Pro Ser Asn Lys Pro Lys Lys Pro
<210> 82
<211> 59
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 82
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                                     10
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
Thr Ile Pro Ser Asn Lys Pro Lys Lys Pro
<210> 83
<211> 171
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(171)
<220>
<223> G196BδC
```

<400> 83

agc acc cag acc aac aaa ccg agc acc aaa agc cgt agc aaa aac ccg 4 Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro

```
1
                                      10
                                                           15
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
                                  25
ccc agc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc agc aaa
                                                                    144
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
         35
acc atc ccg agc aac aaa ccg aaa aag
                                                                    171
Thr Ile Pro Ser Asn Lys Pro Lys Lys
     50
<210> 84
<211> 57
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 84
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
Thr Ile Pro Ser Asn Lys Pro Lys Lys
     50
<210> 85
<211> 183
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(183)
<220>
<223> G200V
<400> 85
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
                                                                    48
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
                                      10
cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val-
                                 25
ecc tgc agt aca tgt gaa ggt aat ett gea tgc tta tea ete tge eat
```

Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His

35 40 45 183 Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile 50 55 <210> 86 <211> 61 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 86 Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro 1 Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile <210> 87 <211> 165 212> ADN ج 213> Respiratory syncytial Virus (RSV) <220> <221> CDS <222> (1)..(165) <220> <223> G194BδC <400> 87 age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg 48 Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro 10 ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg 96 Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val 20 ecc age age ate tge gge aae aae eag etg tge aaa age ate age aaa Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys 35 40 acc atc ccg agc aac aaa ccg 165

<210> 88

50

Thr Ile Pro Ser Asn Lys Pro

```
<211> 55
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 88
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                  5
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
Thr Ile Pro Ser Asn Lys Pro
     50
<210> 89
<211> 159
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(159)
<220>
<223> G192BδC
<400> 89
ago aco cag aco aac aaa cog ago aco aaa ago ogt ago aaa aac cog
Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
                                      10
ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
                                                                    96
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
             20
                                  25
ccc agc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc agc aaa
Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
         35
                             40
acc atc ccg agc aac
                                                                    159
Thr Ile Pro Ser Asn
     50
<210> 90
<211> 53
<212> PRT
<213> Respiratory syncytial Virus (RSV)
```

Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro

<400> 90

```
Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
                                    25
  Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
  Thr Ile Pro Ser Asn
       50
  <210> 91
  <211> 153
  <212> ADN
  <213> Respiratory syncytial Virus (RSV)
  <220>
  <221> CDS
  <222> (1)..(153)
  <220>
  <223> G6BδC
  <400> 91
  age ace cag ace aac aaa eeg age ace aaa age egt age aaa aac eeg
  Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
conti
  ccg aaa aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg
  Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
               20
  ccc agc agc atc tgc ggc aac aac cag ctg tgc aaa agc atc agc aaa
  Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys
  acc atc ccg
                                                                      153
  Thr Ile Pro
       50
  <210> 92
  <211> 51
  <212> PRT
  <213> Respiratory syncytial Virus (RSV)
  <400> 92
  Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro
  Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val
               20
  Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys-
                               40
```

Thr Ile Pro 50

```
<210> 93
<211> 99
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(99)
<220>
<223> G7BδC
<400> 93
aaa ccg aaa gat gat tac cac ttc gaa gtg ttc aac ttc gtg ccc agc
                                                                    48
Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser
age ate tge gge aac aac cag etg tge aaa age ate age aaa ace ate
                                                                    96
Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile
             20
                                  25
ccg
                                                                    99
Pro
<210> 94
<211> 33
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 94
Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser
Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile
Pro
<210> 95
<211> 303
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(303)
<220>
<223> G2V
```

<400> 95

			_										_		aga Arg 15		48
															caa Gln		96
															tgt Cys		144
				_	_				_				_	_	aga Arg	_	192
															cca Pro		240
				_			_						_		agc Ser 95		288
ý	_		aaa Lys	_													303
<pre></pre>																	
		)> 96 Asn		Lys	Ile 5	Lys	Gly	Gln	Ser	Thr 10	Leu	Pro	Ala	Thr	Arg 15	Lys	
	Pro	Pro	Ile	Asn 20	Pro	Ser	Gly	Ser	Ile 25	Pro	Pro	Glu	Asn	His 30	Gln	Asp	
	His	Asn	Asn 35	Phe	Gln	Thr	Leu	Pro 40	Tyr	Val	Pro	Cys	Ser 45	Thr	Cys	Glu	
	Gly	Asn 50	Leu	Ala	Cys	Leu	Ser 55	Leu	Cys	His	Ile	Glu 60	Thr	Glu	Arg	Ala	
	Pro 65	Ser	Arg	Ala	Pro		Ile	Thr	Leu	Lys	Lys 75	Thr	Pro	Lys	Pro	Lys 80	
	0.5					70										00	
		Thr	Lys	Lys	Pro 85		Lys	Thr	Thr	Ile 90		His	Arg	Thr	Ser 95		

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<211> 303
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(303)
<220>
<223> G2VδC
<400> 97
caa aac aga aaa atc aaa ggt caa tca aca cta cca gcc aca aga aaa
                                                                    48
Gln Asn Arg Lys Ile Lys Gly Gln Ser Thr Leu Pro Ala Thr Arg Lys
cca cca att aat cca tca gga agc atc cca cca gaa aac cat caa gac
                                                                    96
Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp
                                  25
cac aac aac ttc caa aca ctc ccc tat gtt ccc agc agt aca tgt gaa
                                                                    144
His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu
                              40
ggt aat ctt gca tgc tta tca ctc agc cat att gag acg gaa aga gca
                                                                    192
Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala
                                              60
cca agc aga gca cca aca atc acc ctc aaa aag aca cca aaa cca aaa
                                                                    240
Pro Ser Arg Ala Pro Thr Ile Thr Leu Lys Lys Thr Pro Lys Pro Lys
 65
                     70
                                          75
acc aca aaa aag cca acc aag aca aca atc cat cac aga acc agc cca
Thr Thr Lys Lys Pro Thr Lys Thr Thr Ile His His Arg Thr Ser Pro
                 85
                                      90
gaa acc aaa ctg caa
                                                                    303
Glu Thr Lys Leu Gln
            100
<210> 98
<211> 101
<212> PRT
<213> Respiratory syncytial Virus (RSV)
Gln Asn Arg Lys Ile Lys Gly Gln Ser Thr Leu Pro Ala Thr Arg Lys
                                      10
Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp
                                  25
His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu
```

Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala

60

55

50

```
Pro Ser Arg Ala Pro Thr Ile Thr Leu Lys Lys Thr Pro Lys Pro Lys
                     70
                                          75
Thr Thr Lys Lys Pro Thr Lys Thr Thr Ile His His Arg Thr Ser Pro
Glu Thr Lys Leu Gln
            100
<210> 99
<211> 177
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(177)
<220>
<223> G198V
<400> 99
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
cca gaa aac cat caa gac cac aac atc caa aca ctc ccc tat gtt
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
ccc tgc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc cat
                                                                   144
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
                             40
att gag acg gaa aga gca cca agc aga gca cca
                                                                   177
Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro
<210> 100
<211> 59
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 100
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
             20
                                                 ___3_0___
```

Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His

```
Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro
                          55
<210> 101
<211> 171
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(171)
<220>
<223> G196V
<400> 101
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
                                                                    48
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
cca gaa aac cat caa gac cac aac atc caa aca ctc ccc tat gtt
                                                                    96
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
ccc tgc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc cat
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
         35
                              40
att gag acg gaa aga gca cca agc aga
                                                                   171
Ile Glu Thr Glu Arg Ala Pro Ser Arg
     50
<210> 102
<211> 57
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 102
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
                                                      30
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
Ile Glu Thr Glu Arg Ala Pro Ser Arg
                         55
```

<212> ADN <213> Respiratory syncytial Virus (RSV)

<210> 103 <211> 165

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<220>
<221> CDS
<222> (1)..(165)
<220>
<223> G194V
<400> 103
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
                                                                   48
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
cca gaa aac cat caa gac cac aac atc caa aca ctc ccc tat gtt
                                                                   96
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
             20
ccc tgc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc cat
                                                                   144
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
         35
                             40
att gag acg gaa aga gca cca
                                                                   165
Ile Glu Thr Glu Arg Ala Pro
     50
<210> 104
<211> 55
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 104
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
Ile Glu Thr Glu Arg Ala Pro
    50
<210> 105
<211> 159
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(159)
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<220>

<223> G192V

```
<400> 105
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt
                                                                   96
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
             20
ccc tgc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc cat
                                                                   144
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
                                                                   159
att gag acg gaa aga
Ile Glu Thr Glu Arg
     50
<210> 106
<211> 53
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 106
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
Ile Glu Thr Glu Arg
     50
<210> 107
<211> 153
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(153)
<220>
<223> G6V
<400> 107
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile-Pro-
cca gaa aac cat caa gac cac aac atc caa aca ctc ccc tat gtt
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
```

20 25 30 ccc tgc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc cat Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His att gag acg 153 Ile Glu Thr 50 <210> 108 <211> 51 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 108 Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu Thr 50 <210> 109 <211> 99 <212> ADN <213> Respiratory syncytial Virus (RSV) <220> <221> CDS <222> (1)..(99) <220> <223> G7V <400> 109 aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt ccc tgc 48 Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys 10 agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc cat att gag 96 Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu 25 20 acg 99

<210> 110 <211> 33

Thr

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<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 110
Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys
Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu
Thr
<210> 111
<211> 183
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(183)
<220>
<223> G200VδC
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
                                25
ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat
Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
                            40
183
Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile
                        55
<210> 112
<211> 61
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 112
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
                                    10
Pro-Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
```

Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His

35 40 45 Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile 55 <210> 113 <211> 177 <212> ADN <213> Respiratory syncytial Virus (RSV) <220> <221> CDS <222> (1)..(177) <220> <223> G198VδC <400> 113 cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca 48 Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt 96 Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val 20 ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His att gag acg gaa aga gca cca agc aga gca cca 177 Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro <210> 114 <211> 59 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 114 Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val 20 Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His ·Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro 50

<210> 115 <211> 171

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<212> ADN
<213> Respiratory syncytial Virus (RSV)
<221> CDS
<222> (1)..(171)
<220>
<223> G196VδC
<400> 115
                                                                    48
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
                                                                    96
cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
             20
ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat
                                                                    144
Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
                             40
att gag acg gaa aga gca cca agc aga
                                                                    171
Ile Glu Thr Glu Arg Ala Pro Ser Arg
<210> 116
<211> 57
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 116
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
             20
Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
                             40
Ile Glu Thr Glu Arg Ala Pro Ser Arg
     50
<210> 117
<211> 165
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(165)
```

<220>

<223> G194VδC <400> 117 cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val 20 ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat 144 Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His 165 att gag acg gaa aga gca cca Ile Glu Thr Glu Arg Ala Pro 50 <210> 118 <211> 55 <212> PRT <213> Respiratory syncytial Virus (RSV) <400> 118 Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val 20 25 Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His 40 Ile Glu Thr Glu Arg Ala Pro 50 <210> 119 <211> 159 <212> ADN <213> Respiratory syncytial Virus (RSV) <220> <221> CDS <222> (1)..(159) <220> <223> G192VδC <400> 119 cta cca gcc aca aga aaa cca cca att-aat cca tca gga agc atc cca

Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro

```
cca gaa aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt
                                                                    96
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
             20
                                  25
                                                      30
ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat
                                                                    144
Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
         35
                                                                    159
att gag acg gaa aga
Ile Glu Thr Glu Arg
     50
<210> 120
<211> 53
<212> PRT
<213> Respiratory syncytial Virus (RSV)
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Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
                             40
Ile Glu Thr Glu Arg
     50
<210> 121
<211> 153
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(153)
<220>
<223> G6VδC
<400> 121
cta cca gcc aca aga aaa cca cca att aat cca tca gga agc atc cca
                                                                    48
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
                                      10
cca gaa aac cat caa gac cac aac atc caa aca ctc ccc tat gtt
                                                                    96
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
                                 25
ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat
Pro-Ser-Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
```

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153
att gag acg
Ile Glu Thr
     50
<210> 122
<211> 51
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 122
Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro
Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val
                                  25
Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
Ile Glu Thr
     50
<210> 123
<211> 99
<212> ADN
<213> Respiratory syncytial Virus (RSV)
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<221> CDS
<222> (1)..(99)
<220>
<223> G7VδC
<400> 123
aac cat caa gac cac aac aac ttc caa aca ctc ccc tat gtt ccc agc
                                                                    48
Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser
                                      10
agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc cat att gag
                                                                    96
Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu
                                  25
acq
                                                                    99
Thr
<210> 124
<211> 33
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 124
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Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser

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Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu
                                   25
Thr
<210> 125
<211> 51
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(51)
<220>
<223> G4V
<400> 125
gtt ccc tgc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc tgc
                                                                     48
Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys
cat
                                                                     51
His
<210> 126
<211> 17
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<400> 126
Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys
                                      10
His
<210> 127
<211> 51
<212> ADN
<213> Respiratory syncytial Virus (RSV)
<220>
<221> CDS
<222> (1)..(51)
<220>
<223> G4VδC
<400> 127
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gtt ccc agc agt aca tgt gaa ggt aat ctt gca tgc tta tca ctc agc

```
Val Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser
                                                                    51
cat
His
<210> 128
<211> 17
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<213> Respiratory syncytial Virus (RSV)
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Val Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser
His
<210> 129
<211> 17
<212> PRT
<213> Respiratory syncytial Virus (RSV)
<223> Xaa means orn.
<220>
<223> G4'V
<400> 129
Val Pro Asp Ser Thr Asp Glu Gly Asn Leu Ala Xaa Leu Ser Leu Xaa
His
<210> 130
<211> 17
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<220>
<223> Xaa means orn.
<220>
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His

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<211> 42
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<223> G1V
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Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
<210> 132
<211> 14
<212> PRT
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Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His
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Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His
<210> 134
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Ser Ile Asp Ser Asn Asn Pro Thr Xaa Trp Ala Ile Ser Lys Cys